



TORQ Analysis of Electricians to Rough Carpenters

INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Electricians	47-2111.00	Abilities:	Importance Level: 50	Weight: 1
To Title:	Rough Carpenters	47-2031.02	Skills:	Importance Level: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1











































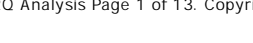
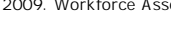

OUTPUT SECTION:

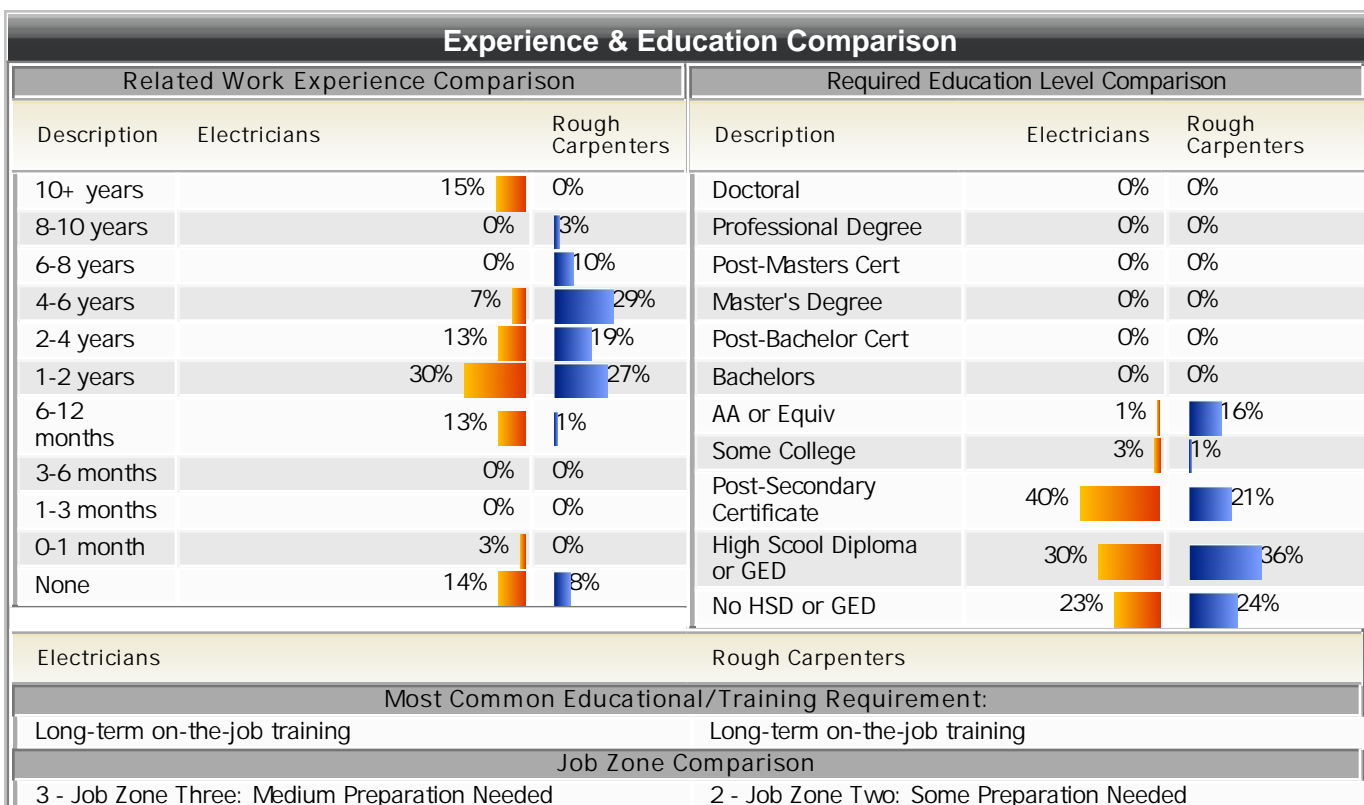
Grand TORQ:				<div></div>				88			
Ability TORQ				Skills TORQ				Knowledge TORQ			
Level		<div></div> 93		Level		<div></div> 85		Level		<div></div> 85	
Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
No Critical Gaps Recorded!				Mathematics	63	11	72	Building and Construction	73	3	84
				Equipment Selection	63	8	71				

LEVEL and IMPT (IMPORTANCE) refer to the Target Rough Carpenters. GAP refers to level difference between Electricians and Rough Carpenters.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Electricians	Rough Carpenters	Importance
Problem Sensitivity	69 	42 	68 
Oral Comprehension	57 	48 	62 
Deductive Reasoning	59 	42 	62 
Information Ordering	64 	46 	62 
Arm-Hand Steadiness	60 	46 	62 
Manual Dexterity	55 	42 	62 
Trunk Strength	55 	53 	62 
Near Vision	64 	51 	62 
Inductive Reasoning	62 	39 	59 
Visualization	62 	51 	56 
Static Strength	62 	51 	56 
Far Vision	46 	44 	56 
Depth Perception	46 	42 	56 
Written Comprehension	59 	39 	53 
Oral Expression	66 	44 	53 





Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.

Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.

Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.

These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.

Employees in these occupations need anywhere from a few months to one year of working with experienced employees.

Tasks

Electricians

Core Tasks

Generalized Work Activities:

- Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.
- Organizing, Planning, and Prioritizing Work - Developing specific goals and plans to prioritize, organize, and accomplish your work.
- Updating and Using Relevant Knowledge - Keeping up-to-date technically and applying new knowledge to your job.

Specific Tasks

Occupation Specific Tasks:

- Advise management on whether continued operation of equipment could be hazardous.
- Assemble, install, test, and maintain electrical or electronic wiring, equipment, appliances, apparatus, and fixtures, using hand tools and power tools.
- Connect wires to circuit breakers, transformers, or other components.
- Construct and fabricate parts, using hand tools and specifications.
- Diagnose malfunctioning systems, apparatus, and components, using test equipment and hand tools, to locate the cause of a breakdown and correct the problem.
- Direct and train workers to install,

Rough Carpenters

Core Tasks

Generalized Work Activities:

- Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).
- Judging the Qualities of Things, Services, or People - Assessing the value, importance, or quality of things or people.
- Monitor Processes, Materials, or Surroundings - Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Coordinating the Work and Activities of Others - Getting members of a group to work together to accomplish tasks.

Specific Tasks

Occupation Specific Tasks:

- Apply shock-absorbing, sound-deadening, and decorative paneling to ceilings and walls.
- Arrange for subcontractors to deal with special areas such as heating and electrical wiring work.
- Assemble and fasten materials to make framework or props, using hand tools and wood screws, nails, dowel pins, or glue.
- Build or repair cabinets, doors, frameworks, floors, and other wooden fixtures used in buildings, using woodworking machines, carpenter's hand tools, and power tools.
- Construct forms and chutes for pouring concrete.
- Cover subfloors with building paper to keep out moisture and lay hardwood, parquet, and wood-strip-block floors by



maintain, or repair electrical wiring, equipment, and fixtures.

- Fasten small metal or plastic boxes to walls to house electrical switches or outlets.
- Inspect electrical systems, equipment, and components to identify hazards, defects, and the need for adjustment or repair, and to ensure compliance with codes.
- Install ground leads and connect power cables to equipment, such as motors.
- Maintain current electrician's license or identification card to meet governmental regulations.
- Perform business management duties such as maintaining records and files, preparing reports and ordering supplies and equipment.
- Perform physically demanding tasks, such as digging trenches to lay conduit and moving and lifting heavy objects.
- Place conduit, pipes or tubing, inside designated partitions, walls, or other concealed areas, and pull insulated wires or cables through the conduit to complete circuits between boxes.
- Plan layout and installation of electrical wiring, equipment and fixtures, based on job specifications and local codes.
- Prepare sketches or follow blueprints to determine the location of wiring and equipment and to ensure conformance to building and safety codes.
- Provide assistance during emergencies by operating floodlights and generators, placing flares, and driving needed vehicles.
- Provide preliminary sketches and cost estimates for materials and services.
- Repair or replace wiring, equipment, and fixtures, using hand tools and power tools.
- Test electrical systems and continuity of circuits in electrical wiring, equipment, and fixtures, using testing devices such as ohmmeters, voltmeters, and oscilloscopes, to ensure compatibility and safety of system.
- Use a variety of tools and equipment such as power construction equipment, measuring devices, power tools, and testing equipment including oscilloscopes, ammeters, and test lamps.
- Work from ladders, scaffolds, and roofs to install, maintain or repair electrical wiring, equipment, and fixtures.

Detailed Tasks

Detailed Work Activities:

- adhere to safety procedures
- analyze operation of malfunctioning electrical or electronic equipment
- bend tubing or conduit

nailing floors to subfloor or cementing them to mastic or asphalt base.

- Erect scaffolding and ladders for assembling structures above ground level.
- Fill cracks and other defects in plaster or plasterboard and sand patch, using patching plaster, trowel, and sanding tool.
- Finish surfaces of woodwork or wallboard in houses and buildings, using paint, hand tools, and paneling.
- Follow established safety rules and regulations and maintain a safe and clean environment.
- Inspect ceiling or floor tile, wall coverings, siding, glass, or woodwork to detect broken or damaged structures.
- Install structures and fixtures, such as windows, frames, floorings, and trim, or hardware, using carpenter's hand and power tools.
- Maintain records, document actions and present written progress reports.
- Measure and mark cutting lines on materials, using ruler, pencil, chalk, and marking gauge.
- Perform minor plumbing, welding or concrete mixing work.
- Prepare cost estimates for clients or employers.
- Remove damaged or defective parts or sections of structures and repair or replace, using hand tools.
- Select and order lumber and other required materials.
- Shape or cut materials to specified measurements, using hand tools, machines, or power saw.
- Study specifications in blueprints, sketches or building plans to prepare project layout and determine dimensions and materials required.
- Verify trueness of structure, using plumb bob and level.
- Work with or remove hazardous material.

Detailed Tasks

Detailed Work Activities:

- adhere to safety procedures
- anchor or brace wooden structures, frameworks, or forms
- apply adhesives, caulking, sealants, or coatings
- attach moisture barrier sheeting over construction surfaces
- build or install cabinets or related interior wood fixtures
- build or repair structures in construction, repair, or manufacturing setting
- climb ladders, scaffolding, or utility or telephone poles



- climb ladders, scaffolding, or utility or telephone poles
- conduct training for personnel
- confer with management or users
- construct or fabricate electrical parts or fixtures
- direct and coordinate activities of workers or staff
- distinguish colors
- drive automobile, van, or light truck
- estimate cost for repair services
- fabricate, assemble, or disassemble manufactured products by hand
- inspect electrical installation for code conformance
- install electrical conduit or tubing
- install electrical fixtures or components
- install electronic power, communication, control, or security equipment or systems
- install lead-in wires to control boxes and other components
- install or replace meters, regulators, or related measuring or control devices
- install/connect electrical equipment to power circuit
- install/string electrical or electronic cable or wiring
- lay out electrical wiring for buildings, etc.
- maintain electrician's tools or equipment
- maintain records, reports, or files
- move or fit heavy objects
- order or purchase supplies, materials, or equipment
- perform safety inspections in construction or resource extraction setting
- perform safety inspections in industrial, manufacturing or repair setting
- plan layout of electrical/electronic equipment installation
- plan or organize work
- prepare reports
- read blueprints
- read tape measure
- read technical drawings
- repair electronic components, equipment, or systems
- repair or adjust measuring or control devices
- repair or replace electrical wiring, circuits, fixtures, or equipment
- replace electronic components
- solder electrical or electronic connections or components
- splice electric cable
- splice electric or communications trunk lines
- test electrical/electronic wiring,

- construct, erect, or repair wooden frameworks or structures
- cut, shape, fit, or join wood or other construction materials
- determine dimensions of wooden furnishings or structures to be built
- determine installation, service, or repair needed
- determine material or tool requirements
- determine project methods and procedures
- direct and coordinate activities of workers or staff
- erect scaffold
- estimate time or cost for installation, repair, or construction projects
- examine products or work to verify conformance to specifications
- fabricate, assemble, or disassemble manufactured products by hand
- finish or refinish floor, furniture, or related wood surfaces
- inspect premises or structure for evidence of deterioration or damage
- install doors, wood floors, window frames, trim, or stairs
- install drywall, plasterboard, or wallboard
- install insulating materials
- install lathing to support plaster, stucco, or related construction material
- install locks, hinges, or related finish hardware
- install or replace glass in windows, skylights, or other structural surfaces
- install prefabricated building components
- install siding or sheeting
- install sub flooring, rough framing, or partitions
- install wall or ceiling shock-absorbing paneling or acoustical tiles
- laminate objects
- lay out woodworking projects
- lubricate machinery, equipment, or parts
- maintain records, reports, or files
- measure and mark reference points or cutting lines on workpieces
- measure, weigh, or count products or materials
- move materials or goods between work areas
- move or fit heavy objects
- obtain information from clients, customers, or patients
- operate hoist, winch, or hydraulic boom
- operate woodworking equipment/machinery
- order or purchase supplies, materials, or equipment



equipment, systems or fixtures

- test electronic or electrical circuit connections
- understand service or repair manuals
- use electrical or electronic test devices or equipment
- use hand or power tools
- use high voltage apparatus
- use interpersonal communication techniques
- use measuring devices in construction or extraction work
- use oscilloscopes in electronics repair
- use soldering equipment
- use voltmeter, ammeter, or ohmmeter

Technology - Examples

Accounting software

- Turtle Creek Software Goldenseal

Analytical or scientific software

- Electrosoft FlashWorks

- Elite ECOORD

- Elite Software Inpoint

- Elite Software Outpoint

- Elite Software Short

- Elite Software VDROP

- Lighting calculation software

- SoftEmpire Electrical Calculations

Computer aided design CAD software

- Computer aided design CAD software

- One Mile Up Panel Planner

- SmartDraw software

Data base user interface and query software

- Database software

- Insight Direct ServiceCEO

- Resolve service management software

- Shafer Service Systems software

- Timberline Office

Project management software

- Construction Master Pro software

- Craftsman CD Estimator

Spreadsheet software

- paint walls or other structural surfaces
- perform safety inspections in construction or resource extraction setting
- position, align, or level machines, equipment, or structures
- prepare building surfaces for paint, finishes, wallpaper, or adhesives
- prepare reports
- read blueprints
- read specifications
- read tape measure
- read technical drawings
- recognize wood characteristics
- recognize wood species characteristics
- repair cracks, defects, or damage in installed building materials
- repair or replace locks, hinges, or related finish hardware
- repair prefabricated wooden building components
- signal directions or warnings to coworkers
- understand construction specifications
- use basic carpentry techniques
- use basic plumbing techniques
- use building materials for routine building maintenance
- use building or land use regulations
- use concrete fabrication techniques
- use hand or power tools
- use hand or power woodworking tools
- use hazardous materials information
- use measuring devices in construction or extraction work
- use oral or written communication techniques
- verify trueness of structure using plumb bob or level
- weld together metal parts, components, or structures

Technology - Examples

Computer aided design CAD software

- Drawing and drafting software

Mobile operator specific application software

- Bosch Punch List

Office suite software

- Microsoft Office

Spreadsheet software

- Microsoft Excel

Word processing software

- Microsoft Word

Tools - Examples



- Spreadsheet software

Word processing software

- Socrates Contractor's Library

- Word processing software

Tools - Examples

- Pump pliers

- Adjustable wrenches

- Air compressors

- Ammeters

- Awls

- Backhoes

- Cable tie guns

- Bandsaws

- Cutting torches

- Insulated bolt cutters

- Bear claw wire threaders

- Single reel cable trailers

- Cable splicing knives

- Inductance testers

- Resistance bridges

- Capacitance testers

- Bucket trucks

- Circuit testers

- Circuit tracers

- Current clamps

- Cable benders

- Truck cranes

- Conduit deburring tools

- Desktop computers

- Diagonal cut pliers

- Drill bits

- Frequency meters

- End cutting pliers

Tools - Examples

- Compressors

- Level jigs

- Bandsaws

- Sliding t-bevels

- Calipers

- Caulking guns

- Cranes

- Push sticks

- Pettibones

- Power generators

- Chainsaw jigs

- Rotary hammers

- Framing hammers

- Hard hats

- Electric impact wrenches

- Beam-lifting jacks

- Extension ladders

- Laser measuring tools

- Carpentry transits

- A-frame levels

- Marking gauges

- Moisture meters

- Needlenose pliers

- Notebook computers

- Personal computers

- Personal digital assistants PDA

- Plumb bobs

- Pneumatic nail guns

- Power drills

- Nail guns

- Routers

- Belt sanders



- Feeler gauges
- Fish tape pullers
- Fuse pulling equipment
- Gas leak detection devices
- Generators
- Ground fault circuit interrupter GFCI testers
- Claw hammers
- Hard hats
- Heat guns
- Allen wrenches
- Hole saws
- Hydraulic presses
- Transfer impedance meters
- Cable labeling machines
- Ladders
- Laser printers
- Conduit levels
- Insulated pliers
- Channel lock pliers
- Heavy duty longnose pliers
- Lighted magnet pickups
- Inspection mirrors
- Manlifts
- Meggers
- Magnetic locators
- Depth gauges
- Multimeters
- Needlenose pliers
- Nibbler cutting tools
- Notebook computers
- Insulated nutdrivers
- Double-end can socket wrenches

- Beam saws
- Staple guns
- Protractors
- Mini pry bars
- Cat's paws
- Respirators
- Rulers
- Work boots
- Fall arrest systems
- Dado blades
- Saw guides
- Hand saws
- Ladder jacks
- Ladder levelers
- Multi-tip screwdrivers
- Combination squares
- Hammer staplers
- Cross-curve tape measures
- Templates
- Theodolites
- Snips
- Right triangles
- Utility knives
- Drill presses

- Ohmmeters
- Oscilloscopes
- Personal computers
- Personal digital assistants PDA
- Phase rotation meters
- Polyvinyl chloride PVC cutters
- Ratcheting pipe wrenches
- Laser plumb bobs
- Cordless drills
- Circular saws
- Cable gripping gloves
- Punchdown tools
- Razor knives
- Tapered reamers
- Respirators
- External snap ring pliers
- Protective safety glasses
- Hacksaws
- Scaffolding
- Cabinet tip screwdrivers
- Shears
- Insulated socket sets
- Butane soldering irons/torches
- Insulated wrenches
- Wire wrap guns
- Hydraulic punching tools
- Staple guns
- Strap wrenches
- Automatic insulation strippers
- Tablet computers
- Conduit measuring tapes
- Tap and die sets



- Tension gauges
- Infrared scanners
- Threading dies
- Tin snips
- Tongue and groove pliers
- Diggers
- Two way radios
- Utility knives
- Millimeters
- Wattmeters
- Welders
- Welding hoods
- Soldering tools
- Winches
- Electricians' scissors
- Crimping pliers
- Cable butt trimmers

Labor Market Comparison

Description	Electricians	Rough Carpenters	Difference
Median Wage	\$ 43,650	\$ 32,710	\$(10,940)
10th Percentile Wage	\$ 32,680	\$ 25,700	\$(6,980)
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	\$ 49,050	\$ 38,540	\$(10,510)
90th Percentile Wage	\$ 52,890	\$ 46,230	\$(6,660)
Mean Wage	\$ 43,700	\$ 34,030	\$(9,670)
Total Employment - 2007	2,910	6,150	3,240
Employment Base - 2006	3,304	11,492	8,188
Projected Employment - 2016	3,340	11,306	7,966
Projected Job Growth - 2006-2016	1.1 %	-1.6 %	-2.7 %
Projected Annual Openings - 2006-2016	89	156	67

National Job Posting Trends

Trend for Electricians

Trend for
Rough
Carpenters



Data from [Indeed](http://Indeed.com)

Recommended Programs

Carpenter

Carpentry/Carpenter. A program that prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. Includes instruction in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.

Institution	Address	City	URL
Northern Maine Community College	33 Edgemont Dr	Presque Isle	www.nmcc.edu
Northern Maine Community College	33 Edgemont Dr	Presque Isle	www.nmcc.edu
Northern Maine Community College	33 Edgemont Dr	Presque Isle	www.nmcc.edu
Southern Maine Community College	2 Fort Road	South Portland	www.smccME.edu

Maine Statewide Promotion Opportunities for Electricians

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
47-2111.00	Electricians	100	3	2,910	\$43,650.00	\$0.00	1%	89
47-4021.00	Elevator Installers and Repairers	86	4	0	\$50,960.00	\$7,310.00	0%	0



49-9051.00	Electrical Power-Line Installers and Repairers	85	3	280	\$47,750.00	\$4,100.00	9%	12
51-4192.00	Lay-Out Workers, Metal and Plastic	85	2	180	\$43,870.00	\$220.00	-24%	3
49-9012.00	Control and Valve Installers and Repairers, Except Mechanical Door	85	3	170	\$47,860.00	\$4,210.00	-9%	3
49-9052.00	Telecommunications Line Installers and Repairers	84	3	720	\$56,120.00	\$12,470.00	0%	19
51-4111.00	Tool and Die Makers	83	3	160	\$51,670.00	\$8,020.00	-11%	2
49-2094.00	Electrical and Electronics Repairers, Commercial and Industrial Equipment	82	3	440	\$49,450.00	\$5,800.00	-19%	15
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	81	5	20	\$60,790.00	\$17,140.00	5%	1
47-1011.00	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	79	3	3,190	\$46,630.00	\$2,980.00	3%	77
49-3011.00	Aircraft Mechanics and Service Technicians	79	3	210	\$44,280.00	\$630.00	-2%	2
47-5031.00	Explosives Workers, Ordnance Handling Experts, and Blasters	78	2	0	\$44,240.00	\$590.00	0%	0
49-9061.00	Camera and Photographic Equipment Repairers	77	3	0	\$44,660.00	\$1,010.00	0%	0
17-3023.03	Electrical Engineering Technicians	77	3	430	\$45,180.00	\$1,530.00	-20%	9
11-9021.00	Construction Managers	76	3	970	\$72,320.00	\$28,670.00	4%	35

Top Industries for Rough Carpenters

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Self-employed workers, primary job	000601	30.54%	446,483	475,671	6.54%
Residential building construction	236100	21.02%	307,298	346,046	12.61%
Nonresidential building construction	236200	10.73%	156,942	175,852	12.05%
Drywall and insulation contractors	238310	2.97%	43,454	46,350	6.66%



Employment services	561300	1.98%	28,968	36,663	26.56%
Other wood product manufacturing	321900	1.33%	19,516	18,391	-5.77%
Poured concrete foundation and structure contractors	238110	1.30%	18,976	21,392	12.73%
Self-employed workers, secondary job	000602	1.24%	18,094	18,903	4.47%
Highway, street, and bridge construction	237300	0.99%	14,411	15,516	7.66%
Other specialty trade contractors	238900	0.97%	14,210	15,706	10.52%
Wood kitchen cabinet and countertop manufacturing	337110	0.78%	11,337	12,552	10.72%
Building material and supplies dealers	444100	0.71%	10,317	13,185	27.79%
Local government, excluding education and hospitals	939300	0.61%	8,942	10,045	12.34%
Other heavy and civil engineering construction	237900	0.45%	6,529	7,013	7.41%
Ship and boat building	336600	0.43%	6,281	7,030	11.93%

Top Industries for Electricians

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Electrical contractors	238210	62.85%	443,111	481,763	8.72%
Self-employed workers, primary job	000601	9.20%	64,835	71,620	10.46%
Local government, excluding education and hospitals	939300	2.23%	15,740	18,334	16.48%
Self-employed workers, secondary job	000602	1.55%	10,924	11,833	8.32%
Nonresidential building construction	236200	1.39%	9,799	11,384	16.18%
Employment services	561300	1.38%	9,746	8,313	-14.70%
Plumbing, heating, and air-conditioning contractors	238220	1.25%	8,792	10,294	17.09%
Motor vehicle parts manufacturing	336300	1.16%	8,149	6,727	-17.45%
Electric power generation, transmission and distribution	221100	1.01%	7,125	6,795	-4.64%
Colleges, universities, and professional schools, public and private	611300	0.89%	6,241	7,239	16.00%
Residential building construction	236100	0.77%	5,415	6,322	16.76%
Federal government, excluding postal service	919999	0.67%	4,750	4,656	-1.98%
Ship and boat building	336600	0.53%	3,766	4,370	16.06%
Coal mining	212100	0.48%	3,382	3,542	4.71%
State government, excluding education and hospitals	929200	0.47%	3,329	3,387	1.75%